

REMARKS:Attorney Docket Number

Please change the Attorney Docket Number of record from "IBM1P006/SJO920010087US1" to "HIT1P040/SJO920010087US1".

Claims 1-20

Claims 1-20 have been rejected under 35 USC 103(a) as being unpatentable over Mizoshita et al. (5,583,726, hereinafter "Mizoshita") in view of Hines et al. (WO 01/41214, hereinafter "Hines"). Applicants first note that the combination of Mizoshita and Hines would result in a poorly functioning structure. Particularly, the FLUX GUIDE 25 and one of the shields would split any magnetic fields caused by the flux from the disk, resulting in a diminished sensitivity.

Claim 1 has also been amended to include the limitation that the shields not be in physical contact with each other, i.e., that one or more layers separate the shields, as shown in FIG. 5 of the present application. This configuration directs most of the magnetic fields propagating in the shields through the EMR sensor, thus greatly improving the MR signal. In sharp contrast, Mizoshita's shields are physically coupled at rear ends thereof. Applicants' claimed structure provides superior magnetic sensitivity in a simpler (i.e., fewer layers) and thus more easily manufacturability structure. Applicants respectfully request that the Examiner allow claim 1, particularly as amended.

Claims 2-15 incorporate the limitations of claim 1, particularly as amended, and therefore are also believed to be allowable over the art of record.

Regarding claim 9, the Examiner has indicated that Mizoshita at col. 7, lines 6-17, describes magnetic fields associated with the magnetic recording disk reside in the shields to afford a voltage in the sensor. Applicants respectfully disagree with the Examiner, because the section indicated refers to flux created by the sense current and elimination current as opposed to magnetic fields from the disk. To reinforce this

HIT1P040/HSJ920010087US1

- 8 -

assertion, Applicants direct the Examiner's attention to col. 4, lines 37-41, which describes how the FLUX GUIDE 25 carries the flux to the sensor. Because Mizoshita's head is designed to focus the flux using the FLUX GUIDE, any magnetic fields propagating in the shields of Mizoshita would likely not reach Mizoshita's sensor 26. Therefore, claims 9-10 are believed to be allowable over the prior art of record.

Claim 14 has been amended to require that the EMR sensor be positioned towards an upper extent of the shields, as shown in FIG. 5 of the present application. This limitation in combination with the limitation that the shields not be in physical contact with each other is found nowhere in the prior art. Claim 14 is believed to be allowable for the same reasons as claim 9, for the same reasons set forth above.

Claim 16 has been amended to require a pair of shields on opposite sides of the EMR sensor, wherein magnetic fields associated with the magnetic recording disk reside in the shields to alter a voltage in the EMR sensor upon an application of a current to the EMR sensor. Claim 16 is believed to be allowable for the same reasons as claim 9, for the same reasons set forth above.

Claims 17-20 have been amended to include the limitation that the shields not be in physical contact with each other. This limitation is similar to the limitation added by amendment to claim 1. Therefore, claims 17-20 are believed to be allowable for the same reasons as claim 1.

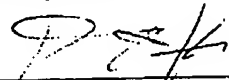
#### Claim 21

New claim 21 has been added to further define the scope of the present invention. Claim 21 requires that the magnetic fields from the media be applied to the sensor in a direction perpendicular to the plane of the sensor. In contrast, in Mizoshita, the FLUX GUIDE applies the magnetic fields from the disk to the sensor in a direction parallel to the plane of the disk. Allowance of claim 21 is respectfully requested.

In the event a telephone conversation would expedite the prosecution of this application, the Examiner may reach the undersigned at (408) 971-2573. For payment of any additional fees due in connection with the filing of this paper, the Commissioner

is authorized to charge such fees to Deposit Account No. 50-2587 (Order No. HSJ920010087US1).

Respectfully submitted,

By:   
Dominic M. Kotab  
Reg. No. 42,762

Date: 1/14/04

Silicon Valley IP Group, PC  
P.O. Box 721120  
San Jose, California 95172-1120  
Telephone: (408) 971-2573  
Facsimile: (408) 971-4660

HIT1P040/HSJ920010087US1

- 10 -